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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,660	11/29/2001	Won Sik Kim	K-0347	2627
34610	7590	09/07/2006	EXAMINER	
FLESHNER & KIM, LLP P.O. BOX 221200 CHANTILLY, VA 20153			LAZARO, DAVID R	
			ART UNIT	PAPER NUMBER
			2155	

DATE MAILED: 09/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/995,660	Applicant(s) KIM, WON SIK	
	Examiner David Lazaro	Art Unit 2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the RCE filed 06/20/2006.
2. Claims 1-21 are pending in this office action.

Response to Amendment

3. Applicant's arguments filed 06/20/2006 have been fully considered but they are not persuasive. See Response to Arguments. Accordingly, the grounds of rejection, as presented in the 10/20/2005 office action, are respectfully maintained. This action is made FINAL even though it is a first action in this case (See Conclusion).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1, 8, 14 and 18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.
6. Specifically, all these claims involve issuing a ping according to a received IP address allocation request of a client. Part of the invention is to use the ping to determine an available IP address as well as determine if a reply to the ping is from the

request DHCP client. The IP address to be issued a ping is selected from a free IP address table (Page 10 of specification, also see claim 10). Of concern, in terms of enablement, is the claimed subject matter of receiving a reply to this ping from the same client that issued the IP address allocation request. The disclosure of the invention does not describe how a client requesting an IP address to be allocated is capable of responding to a ping issued to an IP address.

7. Specifically, the claim language states "*an Internet Control Message Protocol (CMP) module that issues an ICMP ping packet based on an IP address allocation request from the DHCP client*" (claim 1, emphasis added). The fact that the client has sent an IP address allocation request indicates to the examiner that the client does not have an IP address. As described in the 5/23/06 advisory action, RFC 792 contains the standard for ICMP. Page 14 of RFC 792 describes the echo and echo reply formats which make up the ping messages. The format includes a source and destination address field. In the case of the claimed subject matter, the destination address of the initial echo message of the ping will be the IP address that may potentially be allocated. The claims include the subject matter of "*a determining module that determines whether a reply to the ICMP ping packet came from the DHCP client requesting the IP address allocation or from another DHCP client*" (emphasis added). This indicates the DHCP client that is requesting the IP address allocation is capable of replying to the issued ICMP ping packet.

8. But if the DHCP client requesting an IP address allocation does not have an allocated IP address, how can it respond to a ICMP message directed to a destination

IP address. The specification does not describe how a DHCP client without an IP address could respond to a message that uses an IP address to designate the destination of the message. It would seem that if a DHCP client could respond to a ICMP echo message which uses an IP address as the destination address, then the DHCP client is already allocated an IP address. This presents a clear contradiction in the claim language. The specification does not provide any insight or explanation to clarify this contradiction. The specification does not mention any scenario or embodiment where a DHCP client is already configured/allocated with an IP address but is still requesting allocation of an IP address. Accordingly, how can one skilled in the art make or use the claimed invention without such description?

9. The examiner notes that Applicant attempts to address this issue in the remarks, on page 4. Applicant states,

"The Office Action (on at least page 2) questions whether a reply to a ping may be received from the same client that issues a request for an IP address allocation. See the above description regarding this matter; paragraph [46], last three lines of the specification; and the response filed on July 25, 2005 at page 9, lines 4-5."

The "above description" from the remarks includes the statement *"Consequently, the DHCP server can distinguish between different clients based on MAC addresses, and the DHCP knows the client's IP address."* (emphasis added). Again, if a client is requesting an IP address to be allocated, the client does not have an IP address, therefore how can the DHCP server know the requesting client's IP address. Applicant also refers to the TCP/IP standard and RFC 792 in support of enablement. However, there is no specific argument or description in the specification directed to how a client

without an IP address can respond to an ICMP ping message that is directed to an IP address. The examiner notes that applicant states in the remarks, on page 2, *"one skilled in the art would know that a DHCP server would know how to distinguish replies from different clients"*. While this, to some degree, addresses enablement of distinguishing between replies of different clients, there is still the issue of whether a client that does not have an IP address can respond to an ICMP ping message that is directed to an IP address.

10. The last three lines of Paragraph [46] of the specification, states, *"After the calling, the determining module 20 determines whether the reply to the ICMP ping request came from the DHCP client requesting the IP allocation or other hosts (i.e., other DHCP clients) (step S5)." This provides no description of how a client without an IP address can responds to a ICMP ping directed to an IP address.*

11. The response filed on July 25, 2005 at page 9, starting at lines 4-5, states, *"The specification is very clear in its teaching and would be understood by one skilled in the art. That is, the present application relates to preventing duplicative allocation when IP addresses are allocated by a server. The present specification relates to reconfirming the present condition of IP allocation by determining the reply to an ICMP ping request is from a DHCP client. S7-S10 of Fig. 4 relate to these features."*

S7-S10 of Fig. 4 do not contain any description of how a client without an IP address can responds to a ICMP ping directed to an IP address. Nor is there any particular description related to *"reconfirming the present condition of IP allocation"* other than the basic description of issuing the ping and making the determination. This basic

description does not include how a client without an IP address can responds to a ICMP ping directed to an IP address.

12. For these reasons of uncertainty of enablement, the examiner contends that one skilled in the art would not know how to make or use the invention. Therefore the claims fail to comply with the enablement requirement.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 1-21 are rejected under 35 U.S.C. 102(b) as being anticipated by "Join server technical help: Chapter 5 Server/Security Parameter", technical manual from UC Davis Information Resources Unix Help website, November 11, 1996 (Join).

15. With respect to Claim 1, Join teaches A Dynamic Host Configuration Protocol (DHCP) server (Page 1), comprising:

an Internet Control Message Protocol (ICMP) module that issues an ICMP ping packet, based on an IP address allocation request from a DHCP client (Page 8 'Ping BOOTP Clients'), and registers relevant event information in a DHCP ping entry (Page 8 'Ping BOOTP Clients' and 'Ping Timeout');

a determining module that determines whether a reply to the ICMP ping packet came from the DHCP client requesting the IP address allocation or another DHCP client (Page 8 'Ping BOOTP Clients' and 'Ping Timeout', Page 6 'Assign name by hardware address', and Page 9 'Restrict to Known MAC address' and 'Use MAC addr as client ID'); and

a first operation module that conducts a DHCP procedure using the registered relevant event information, if the reply is from the DHCP client requesting the IP address allocation, and changes the registered relevant event information through the ICMP module and issues a new ICMP ping packet, if the reply is from the another DHCP client (Page 6, 'BOOTP Client Lease Extension' and Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

16. With respect to Claim 2, Join teaches all the limitations of Claim 1 and further teaches the first operation module erases the registered relevant event information from the DHCP ping entry during the DHCP procedure (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

17. With respect to Claim 3, Join teaches all the limitations of Claim 1 and further teaches the DHCP procedure is a process for allocating a requested IP address to the DHCP client requesting the IP address (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

18. With respect to Claim 4, Join teaches all the limitations of Claim 1 and further teaches a verifying module that conducts a system timer loop, the system timer loop is used to periodically verify the relevant event information registered in the DHCP ping

entry; a comparing module that compares an event occurrence time and an out time, which is set in the relevant event information registered in the DHCP ping entry; and a second operation module that conducts the DHCP procedure using the registered relevant event information and erases the relevant event information from the DHCP ping entry, if the event occurrence time is older than the out time set in the corresponding DHCP ping entry (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

19. With respect to Claim 5, Join teaches all the limitations of Claim 4 and further teaches the DHCP procedure is a process for allocating a requested IP address to the DHCP client requesting the IP address (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

20. With respect to Claim 6, Join teaches all the limitations of Claim 4 and further teaches the second operation module erases the registered relevant event information from the DHCP ping entry during the DHCP procedure (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

21. With respect to Claim 7, Join teaches all the limitations of Claim 1 and further teaches a system clock device that provides timing information to the DHCP server (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

22. With respect to Claim 8, Join teaches a method for allocating an Internet Protocol (IP) address by a Dynamic Host Configuration Protocol (DHCP) server (Page 1), comprising:

issuing an Internet Control Message Protocol (ICMP) ping packet and registering relevant event information in a DHCP ping entry when an IP address allocation request is received from a DHCP client (Page 8 'Ping BOOTP Clients' and 'Ping Timeout');

conducting a DHCP procedure using the registered relevant event information and erasing the registered relevant event information from the DHCP ping entry, when a reply to the ICMP ping packet is received from the DHCP client requesting the IP address allocation (Page 6 'BOOTP Client Lease Extension' and 'Assign name by hardware address', and Page 9 'Restrict to Known MAC address' and 'Use MAC addr as client ID'); and

changing the relevant event information registered in the DHCP ping entry and issuing a new ICMP ping packet, when a reply to the ICMP ping packet is received from another DHCP client (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

23. With respect to Claim 9, Join teaches all the limitations of Claim 8 and further teaches the relevant information includes the IP address, a Media Access Control (MAC) address of the DHCP client, and an event occurrence time (Page 8 'Ping BOOTP Clients' and 'Ping Timeout', Page 6 'Assign name by hardware address', and Page 9 'Restrict to Known MAC address' and 'Use MAC addr as client ID').

24. With respect to Claim 10, Join teaches all the limitations of Claim 8 and further teaches discarding the IP address allocation request, received from the DHCP client, when there is no new IP address available for allocation in a DHCP free IP address table (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

25. With respect to Claim 11, Join teaches all the limitations of Claim 8 and further teaches operating a system timer loop used to periodically verify the DHCP ping entry; comparing an event occurrence time registered in the DHCP ping entry and a set DHCP ping packet out time; and conducting the DHCP procedure using the registered relevant information and erasing the relevant event information from the DHCP ping entry if the registered event occurrence time is older than the set DHCP ping packet out time (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

26. With respect to Claim 12, Join teaches all the limitations of Claim 11 and further teaches the relevant information includes the IP address, a Media Access Control (MAC) address of the DHCP client, and an event occurrence time (Page 8 'Ping BOOTP Clients' and 'Ping Timeout', Page 6 'Assign name by hardware address', and Page 9 'Restrict to Known MAC address' and 'Use MAC addr as client ID').

27. With respect to Claim 13, Join teaches all the limitations of Claim 11 and further teaches the system timer loop is operated with a system clock device provided in the DHCP server (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

28. With respect to Claim 14, Join teaches a server (Page 1), comprising:

an Internet Control Message Protocol (ICMP) module that issues a ping packet according to a received Internet Protocol (IP) address allocation request (Page 8 'Ping BOOTP Clients' and 'Ping Timeout');

a determining module that determines whether a reply to the issued ping packet came from a first client that requested the IP address allocation or from a second client other than the first client (Page 8 'Ping BOOTP Clients' and 'Ping Timeout', Page 6

'Assign name by hardware address', and Page 9 'Restrict to Known MAC address' and 'Use MAC addr as client ID'); and

a first operation module that allocates an IP address to the first client if the first client is determined to have sent the reply (Page 6, 'BOOTP Client Lease Extension' and Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

29. With respect to Claim 15, Join teaches all the limitations of Claim 14 and further teaches the first operation module discards the IP address allocation request if the second client is determined to have sent the reply (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

30. With respect to Claim 16, Join teaches all the limitations of Claim 14 and further teaches a comparing module that compares an event occurrence time stored by the ICMP module in a ping entry with an out time set in the ping packet (Page 8 'Ping BOOTP Clients' and 'Ping Timeout'); and a second operation module that erases the ping entry if the event occurrence time is older than the out time (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

31. With respect to Claim 17, Join teaches all the limitations of Claim 14 and further teaches a verifying module that repeatedly induces the server to determine whether the reply has been received (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

32. With respect to Claim 18, Join teaches a method of allocating an Internet Protocol (IP) address with a server, comprising:

issuing a ping packet according to a received IP address allocation request (Page 8 'Ping BOOTP Clients' and 'Ping Timeout');

determining whether a reply to the issued ping packet came from a first client that requested the IP address allocation or from a second client other than the first client (Page 8 'Ping BOOTP Clients' and 'Ping Timeout', Page 6 'Assign name by hardware address', and Page 9 'Restrict to Known MAC address' and 'Use MAC addr as client ID'); and

allocating the IP address to the first client, if the first client is determined to have sent the reply (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

33. With respect to Claim 19, Join teaches all the limitations of Claim 18 and further teaches discarding the IP address allocation request if the second client is determined to have sent the reply (Page 6, 'BOOTP Client Lease Extension' and Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

34. With respect to Claim 20, Join teaches all the limitations of Claim 18 and further teaches comparing an event occurrence time stored in a ping entry with an out time set in the ping packet (Page 8 'Ping BOOTP Clients' and 'Ping Timeout'); and erasing the ping entry if the event occurrence time is older than the out time (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

35. With respect to Claim 21, Join teaches all the limitations of Claim 18 and further teaches repeatedly determining whether the reply has been received (Page 8 'Ping BOOTP Clients' and 'Ping Timeout').

Response to Arguments

36. Applicant's arguments filed 06/20/06 have been fully considered but they are not persuasive.

37. Applicant argues on pages 5-6 of the remarks - *"JOIN does not distinguish between a DHCP client and another DHCP client and perform different operations based on the different clients. Additionally, the Office Action's comments on page 4 do not discuss conducting a DHCP procedure using registered relevant event information or changing the registered relevant event information (based on the reply)."* Note:

Applicant's remaining arguments rely on these reasons.

- a. Examiner's response - According applicant's remarks, *"one skilled in the art would know that a DHCP server would know how to distinguish replies from different clients"*(page 2 of the remarks). JOIN teaches a DHCP server so clearly one of ordinary skill in the art would know that the DHCP server of JOIN would know how to distinguish between a DHCP client and another DHCP client. Additionally, as noted in the advisory action, JOIN clearly describes that the server can distinguish a ping response received from a requesting DHCP client (Page 6 - BOOTP Client Lease Extension) versus a ping response from another DHCP client (Page 8 - Ping BOOTP Clients). Furthermore, as described on Page 6, BOOTP Client Lease Extension, the examiner considers the extension of the lease to be a "DHCP procedure using registered relevant event information". As described on page 8, Ping BOOTP Clients and Ping Timeout", the examiner considers the marking of the address as unavailable and the use of a new

address from the address pool as "changing the registered relevant event information".

Conclusion

38. This is a continuation of applicant's earlier Application No. 09/995660. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Lazaro whose telephone number is 571-272-3986. The examiner can normally be reached on 8:30-5:00 M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on 571-272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



David Lazaro
August 30, 2006



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